



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/725,155

12/01/2003

Raymond V. Damadian

DAMADIAN 3.0-094

1774

530 7590 08/04/2009
LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
600 SOUTH AVENUE WEST
WESTFIELD, NJ 07090

EXAMINER

MEHTA, PARIKHA SOLANKI

ART UNIT

PAPER NUMBER

3737

MAIL DATE

DELIVERY MODE

08/04/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/725,155	Applicant(s) DAMADIAN, RAYMOND V.	
	Examiner PARIKHA S. MEHTA	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-16 and 22-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-16 and 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15 May 2009 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 13 and 14 recite "said one or more motors" without sufficient antecedent basis.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-7, 9, 12-14 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuk (US Pre-Grant Publication No. 2002/0123681), hereinafter Zuk ('681), previously made of record, in view of Weber (US Patent No. 3,806,109), hereinafter Weber ('109), of record, in view of Fedele (US Patent No. 3,962,736), hereinafter Fedele ('736), in view of Livni et al (US Patent No. 6,317,618), hereinafter Livni ('618).

Regarding claims 12-14 and 22-25, Zuk ('681) teaches a U-shaped superconducting magnet **10** (§ 0021) having a gap for receiving a patient, and means **17** for moving the magnet so that a portion of a region of interest of the patient can be imaged, the means comprising an electrical motor which may be connected to a jack for lowering or raising the magnet (Fig. 1, § 0019-21, § 0065). Zuk ('681) shows a patient support platform **36** positioned within the gap for supporting the patient (Fig. 2). The patient support platform 36 can be moved in any direction in three dimensional space (e.g., by sliding or lifting the entire system), and therefore it has three degrees of motion. Zuk ('681) also provides vertical support members **16A** for moving the magnet in a vertical direction (Figure 1). Zuk ('681) further teaches that the electrical motor may be mechanically coupled to the framework, thereby comprising an electromechanical device (§ 0065).

Zuk ('681) does not teach the patient support as being mounted to a frame, said frame mounted to a fulcrum at the approximate midpoint of the frame, the fulcrum operable to rotate the frame about an axis for positioning the patient. In the same field of endeavor, Weber ('109) teaches a patient support which is elongate along a first direction and mounted to a fulcrum of an elevator frame, the elevator frame mounted to a carriage at its approximate midpoint, the support operable to slide relative to the elevator frame along the first direction (col. 2 lines 19-43, Figs. 2 & 3). It would have been obvious to one of ordinary skill in the art to have modified Zuk ('681) to substitute the patient support system of Weber ('109), in order to provide for more flexibility in positioning the patient during imaging.

Neither Zuk ('681) nor Weber ('109) teach the carriage as moving on one or more rails along a substantially horizontal direction. Weber ('109) teaches the carriage as moving on one or more wheels along a substantially direction (Figs. 1 & 3, elements 20). Applicant has not disclosed that the use of rails solves a particular problem or presents a patentable advantage over the prior art. As such, it would have been nothing more than an obvious matter of design choice to one of ordinary skill in the art to have substituted one or more rail mechanisms for the wheels of Weber ('109) in order to facilitate horizontal movement of the carriage.

Neither Zuk ('681) nor Weber ('109) teach the patient support as sliding along the first direction relative to the elevator frame. In the same field of endeavor, Fedele ('736) teaches a surgical bed having a patient support 22 sliding along its elongate direction on a support frame 23 (Abstract, Fig. 1), and further teaches the sliding support as being useful for easily positioning the patient within the bed (col. 2 lines 23-29). It would have been obvious to one of ordinary skill in the art at the time of invention to have modified Zuk ('681) and Weber ('109) to include the support slide mechanism of Fedele ('736), in view of the teachings of Fedele ('736).

Art Unit: 3737

Neither Zuk ('681), Weber ('109) nor Fedele ('736) teach a pair of substantially vertical support members, wherein at least one member is adapted to rotate about an axis, and wherein a motor is coupled to the rotatable member to move the magnet in a vertical direction. In the same field of endeavor, Livni ('618) teaches an MR magnet coupled to a vertical support comprising a screw jack and a motor to facilitate vertical movement of the magnet (Fig. 3, col. 7 lines 30-33). Although Livni ('618) only teaches one support, it has previously been held that the duplication of parts (i.e., the duplication of the support to yield two supports as claimed) is obvious and unpatentable (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)). It would have been obvious to one of ordinary skill in the art at the time of invention to have modified Zuk ('681), Weber ('109) and Fedele ('736) to include the vertical support and motor of Livni ('618) and thereby yield the claimed invention, in order to allow greater flexibility in positioning the MR magnet along the vertical direction.

6. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuk ('681), Weber ('109), Fedele ('736) and Livni ('618) as applied to claim 23 above, further in view of Cho (Foundations of Medical Imaging, Wiley Interscience, © 1993), hereinafter Cho (1993), previously made of record.

Zuk ('681) does not explicitly teach that the U-shaped magnet is a solenoid. It is well-known in the art to use a solenoid in situations where an electromagnet is needed, and it is also well-known that state-of-the-art MRI systems for medical imaging commonly employ solenoids as electromagnets. For example, Cho (1993) states that solenoids are commonly used in medical MR imaging systems (p. 257). Thus, it would have been obvious to one of ordinary skill in the art to create a medical imaging system according to Zuk ('681), employing a solenoid for the reference electromagnet, in view of the teachings of Cho (1993).

7. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuk ('681), Weber ('109), Fedele ('736) and Livni ('618) as applied to claim 23 above, further in view of Acker (US Patent No. 6,128,522), hereinafter Acker ('522).

Zuk ('681) lacks a pneumatic or hydraulic device configured to move the magnet. In the same field of endeavor, Acker ('522) teaches hydraulic and pneumatic means for positioning an MR magnet during imaging (col. 8 lines 58-67). It would have been obvious to one of ordinary skill in the art to include the pneumatic or hydraulic device of Acker ('522) as a means of moving the magnet in the system of Zuk ('681), as it has previously been held that the mere combination of known elements to yield

Art Unit: 3737

predictable results is not a patentable advance over the prior art (see for precedent *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 6,414,490 in view of Weber (‘109), Fedele (‘736) and Livni (‘618). Although the conflicting patent does not claim the sliding carriage, sliding patient support, and vertically adjusting support and motor mechanism, these features are obvious in view of Weber (‘109), Fedele (‘736) and Livni (‘618) as previously discussed for claim 23.

10. Claims 1-22 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. Patent No. 6,677,753. Although the conflicting patent does not claim the sliding carriage, sliding patient support, and vertically adjusting support and motor mechanism, these features are obvious in view of Weber (‘109), Fedele (‘736) and Livni (‘618) as previously discussed for claim 23.

Response to Arguments

Art Unit: 3737

11. Applicant's arguments with respect to claims 10-16 and 22-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARIKHA S. MEHTA whose telephone number is (571)272-3248. The examiner can normally be reached on M-F, 8 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571.272.4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/
Supervisory Patent Examiner, Art Unit
3737

/Parikha S Mehta/
Examiner, Art Unit 3737